

REMARKS

Favorable reconsideration of this application is requested in view of the following remarks.

Claim 2 has been amended to include the limitations of previously presented claim 11 and further amended editorially. Claim 5 has been amended to include the limitations of claim 6 and further amended editorially. Accordingly, claims 6 and 11 have been canceled without prejudice. Claims 12-13 have been amended editorially. Withdrawn claim 14 has been amended editorially.

Claims 2-13 and 15-17 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Applicants respectfully traverse this rejection.

Claim 2 has been amended to revise the terms "first liquid system" and "second liquid system" to "liquid sample" as suggested by the Examiner. The claim has been further amended to limit the protein measurement indicator to a xanthene dye or a triphenylmethane dye. Accordingly, claim 2 is clear and well defined, and this rejection should be withdrawn.

Claims 2, 3-9, 11-13, and 15-17 have been rejected under 35 U.S.C. 112, second paragraph, as being incomplete. Applicants respectfully traverse this rejection.

In order to obtain a correct value of a protein concentration in a liquid sample by eliminating a measurement error caused by the reaction between the creatinine and protein measurement indicator, claim 2 recites a method including steps of obtaining a first response value that reflects a protein concentration in the liquid sample including a protein measurement indicator under influence of creatinine; preparing another quantity of the liquid sample that does not contain the protein measurement indicator; obtaining a second response value that reflects a creatinine concentration in the another quantity of the liquid sample; and calculating a protein concentration in the liquid sample, by using the first and second response values. The claim includes all necessary steps to perform the invention. 35 U.S.C. 112, sixth paragraph, allows a claim to recite steps for

performing a specified function without recital of structure, material, or acts in support thereof. Accordingly, claim 2, which is phrased based on the functions of the steps such as obtaining a second response value that reflects a creatinine concentration in the another quantity of the liquid sample and calculating a protein concentration in the liquid sample, by using the first and second response values, is acceptable under 35 U.S.C. 112, and this rejection should be withdrawn.

Claim 5 and its dependent claim 6 have been rejected under 35 U.S.C. 112, second paragraph, as being incomplete. Applicants respectfully traverse this rejection.

Claim 5 has been amended to include the limitations of previously presented claim 6, which recites the particular methods to obtain the corrected response value. Accordingly, claim 5 is clear, and this rejection should be withdrawn. Applicants do not concede the correctness of the rejection.

Claims 2-3, 5, 8, and 15-17 have been rejected under 35 U.S.C. 102(b) as being anticipated by Messenger et al. (European Patent Application Publication No. 0909953). Applicants respectfully traverse this rejection.

The method of claim 2 measures a protein concentration (a concentration of a target analyte) in a liquid sample with a protein measurement indicator that also reacts with creatinine (a non-target analyte), which coexists in the liquid sample, while eliminating the measurement error caused by a reaction between creatinine and the protein measurement indicator (see abstract of the present application). Claim 2 particularly recites a method including steps of obtaining a first response value that reflects a protein concentration in the liquid sample including a protein measurement indicator under influence of creatinine; preparing another quantity of the liquid sample that does not contain the protein measurement indicator; obtaining a second response value that reflects a creatinine concentration in the another quantity of the liquid sample; and calculating a protein concentration in the liquid sample, by using the first and second response values, for eliminating a measurement error caused by the reaction between the creatinine and protein measurement indicator. Claim 2 further recites that the protein measurement indicator is a xanthene dye or a triphenylmethane dye.

Claim 2 requires that a step of obtaining a first response value be influenced by creatinine as well as a step of mixing a protein measurement indicator, which is a xanthene dye or a triphenylmethane dye, in the liquid sample.

Messenger discloses a method to obtain a concentration of the first analyte (albumin) in a body fluid sample, in which a second analyte (creatinine) is also present, by a colorimetric analysis (see abstract). The reference suggests that the colorimetric analyses are performed in separate regions in a test strip by using different indicators, one of which reacts with the first analyte and the other of which reacts with the second analyte (see paras. [0010] on pages 3-4 and [0023] on pages 6-7 and claim 5 on page 8), i.e., each analyte reagent reacts with a particular analyte in the liquid sample. Even if the first and second analytes are included in the liquid sample of Messenger, the reference is silent about the influence of the second analyte on measurement of a concentration of the first analyte, i.e., a reaction between the first analyte reagent and the second analyte, and there is no reasonable basis to assume that the first analyte reagent reacts with the second analyte. Thus, Messenger fails to disclose the step of obtaining a first response value that reflects a protein concentration in the liquid sample under influence of a reaction between the creatinine and the protein measurement indicator as claim 2 recites, and the reference also does not disclose the subject matter of claim 2, which is the method for eliminating a measurement error caused by the reaction between the creatinine and the protein measurement indicator.

In short, because the particular protein measurement indicator reacts with both protein and creatinine in the liquid sample in the method of claim 2, the accurate protein concentration can be obtained by preparing another liquid sample that does not include the indicator, measuring the creatinine concentration, and eliminating a measurement error caused by the reaction between creatinine and the protein measurement indicator. This method is completely different from the method of Messenger, which does not use the particular protein measurement indicator that reacts with both first and second analytes and thus does not need to eliminate a measurement error caused by the reaction between the second analyte and the indicator as claim 2 recites.

In addition, as discussed above, Messenger discloses use of test strips, which include two different reagents (see paras. [0010] on pages 3-4 and [0023] on pages 6-7

and claim 5 on page 8). The reference, however, fails to disclose a step in which the liquid sample is mixed with a protein measurement indicator, which is a xanthene dye or a triphenylmethane dye, as claim 2 recites.

Accordingly, claim 2 and its dependent claims 3, 5, 8, and 15-17 are distinguished from Messenger, and this rejection should be withdrawn.

Claims 4 and 6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Messenger et al. (European Patent Application Publication No. 0909953). Applicants respectfully traverse this rejection.

Claim 4, which ultimately depends from claim 2, is distinguished from Messenger for at least the same reasons as discussed for claim 2 above.

Claim 6 has been incorporated into claim 5, which is distinguished from Messenger as discussed above.

Accordingly, this rejection should be withdrawn.

Claims 7 and 11-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Messenger et al. (European Patent Application Publication No. 0909953) in view of Waheed et al. (Analytical Biochemistry, 287, 73-79 (2000)). Applicants respectfully traverse this rejection.

Claim 2, which includes the limitations of claim 11, is distinguished from Messenger as discussed above.

Claims 7 and 12-13, which ultimately depend from claim 2, are distinguished from Messenger for at least the same reasons as discussed for claim 2 above.

Waheed does not disclose a liquid sample including creatinine in addition to protein. Even if the dye of Waheed (see page 74) were considered similar to that of claim 7, Messenger, which measures concentrations of the first and second analyte independently by using two different reagents as discussed above (see paras. [0010] on pages 3-4 and [0023] on pages 6-7 and claim 5 on page 8), could not use the dye that reacts with both protein and creatinine as claims 7 and 12-13 require. Accordingly, there

is no reasonable basis to combine Messenger and Waheed, and this rejection should be withdrawn.

Claims 9 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Messenger et al. (European Patent Application Publication No. 0909953) in view of Waheed et al. (Analytical Biochemistry, 287, 73-79 (2000)) as described above, and further in view of Yip et al. (U.S. Patent no. 5,385,847). Applicants respectfully traverse this rejection.

Claims 9 and 10, which ultimately depend from claim 7, are distinguished from Messenger in view of Waheed for at least the same reasons as discussed for claim 7 above.

Yip discloses a method in which concentrations of protein and creatinine in a liquid sample are obtained individually by adjusting pH and using two different reagents, one of which reacts with protein and the other of which reacts with creatinine (see coln. 2, lines 23-64), and Yip does not suggest a step in which a first response value that reflects a protein concentration in the liquid sample under influence of a reaction between creatinine and the protein measurement indicator, i.e., a total response from reactions between the protein measurement indicator and protein and between the indicator and creatinine, is obtained, as claims 9 and 10 require. Accordingly, Yip does not remedy the deficiencies of Messenger and Waheed, and this rejection should be withdrawn.

In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance.



Dated: August 17, 2010

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